

Crotalaria madurensis var. *kurnoolica* J.L.Ellis & Swamin. (Fabaceae) a new distributional record to Telangana state, India

To Cite:

Ravi G, Paramesh L, Ramesh K, Swamy K, Charan YVB, Naresh B, Reddy DM, Ravikanth M. *Crotalaria madurensis* var. *kurnoolica* J.L.Ellis & Swamin. (Fabaceae) a new distributional record to Telangana state, India. *Species* 2023; 24: e6s1006
doi: <https://doi.org/10.54905/diss/v24i73/e6s1006>

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Peer-Review History

Received: 09 November 2022
Reviewed & Revised: 12/November/2022 to 14/January/2023
Accepted: 18 January 2023
Published: 24 January 2023

Peer-Review Model

External peer-review was done through double-blind method.

Species
pISSN 2319-5746; eISSN 2319-5754

URL: <https://www.discoveryjournals.org/Species>



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ABSTRACT

Crotalaria madurensis var. *kurnoolica* J.L.Ellis & Swamin. an endemic species to Eastern Ghats, which is collected from Mallela Theertham waterfalls of Nallamala forest and reported here as a new distributional record to the Flora of Telangana State.

Keywords: *Crotalaria*, Endemic, Fabaceae, New record, Telangana.

1. INTRODUCTION

The genus *Crotalaria* L. was first described by Carolus Linnaeus with 13 species in his *Species Plantarum* (Linnaeus, 1753). The genus is a member of the legume family (Fabaceae, Leguminosae), subfamily Papilionoideae and tribe Crotalariaeae. The genus is a highly diversified in terms of growth form and includes annual or perennial, prostrate or erect herbs, sub-shrubs, robust shrubs, even a few trees (Subramaniam & Pandey, 2014; Rokade et al., 2020) and widely distributed in various habitats i.e., open areas, plains, hills, along the forest fringes and grasslands. The genus *Crotalaria* L. represented by 712 species, widespread in Old and New World countries (POWO, 2022). In India the genus *Crotalaria* L. represented by 116 taxa (Nandikar et al., 2018; Rokade et al., 2019, 2020; Dhatchanamoorthy et al., 2021).

2. MATERIALS AND METHODS

While working on the documentation and floristic composition of Amrabad Tiger Reserve, the first author collected an interesting plant species of *Crotalaria* L. in flowering stage, at Mallelathiertham waterfalls during November 2022. After a critical macroscopic and microscopic study of live specimens and based on relevant literature (Ellis & Swaminathan, 1969; Pullaiah & Chennaiah, 1997) revealed that the collected specimen was identified as *Crotalaria madurensis* var. *kurnoolica* J.L.Ellis & Swamin. The voucher specimens were poisoned, dried, prepared and deposited at Herbaria of Osmania University, Hyderabad (HY) for future reference.

3. RESULTS AND DISCUSSIONS

The scrutiny of literature revealed that the genus *Crotalaria* L. comprises 30 species in Telangana state (Pullaiah, 2015; Reddy & Reddy, 2016; Reddy, 2018). Since then, two taxa viz., *Crotalaria sandoorensis* Bedd. ex Gamble and *Crotalaria vestita* Baker were added to the Flora of the state from Bhadrachalam district (Ravi et al., 2022). The present study resulted in the addition of one *Crotalaria* species i.e., *Crotalaria madurensis* var. *kurnoolica* J.L.Ellis & Swamin, an endemic species to Eastern Ghats was reported only from Kurnool district of Andhra Pradesh (Ellis & Swaminathan, 1969; Pullaiah & Chennaiah, 1997). So, the present collection confirms its new distributional record to Telangana state. Therefore, as of now, there are 33 species of *Crotalaria*, including present addition, represented in Telangana state.

4. TAXONOMIC TREATMENT

C. madurensis Wight var. *kurnoolica* Ellis & Swamin. J Bombay Nat Hist Soc 1969; 66(1):227-228. Type: Andhra Pradesh, Kurnool Dt., Ellis 22144 A (holotype: CAL).

Description

Erect under shrubs, with many ascending branches, 1.5 – 2.5 m tall. Stems and branches terete, silky pubescent. Leaves simple, alternate, estipulate; petiole ca. 4 mm long, villous; lamina 7.5 X 3.5 cm, elliptic, ovate, rarely obovate, apiculate narrowed at the base, silky pubescent on both surfaces, veins prominent underneath, lateral nerves up to 14 pairs. Inflorescence is a terminal or axillary paniced racemes, bracteate, bracteolate, peduncle up to 15 cm long, silky pubescent, gummy exudation throughout. Flower 1.8 cm long and 2.2 cm across; bract 10 X 16 mm, broadly ovate, acuminate, deeply cordate, revolute, amplexicaul, persistent; bracteoles 5 X 3 mm, ovate - acuminate, deeply cordate, reflexed, silky tomentose out and glabrous in; pedicel 5 mm long. Calyx bilipped, silky tomentose, lobes equal, 9 X 4 mm, elliptic, margin prominently revolute, dark when dry. Corolla bright yellow; standard petal 2 X 2 cm, ovate silky pubescent out and glabrous in, spreading backwards; wing petals 10 X 4 mm, obovate, keel petals 9 X 6 mm, ovate, rounded about the middle, beak not twisted. Stamens 10, dimorphic, monadelphous till half their lengths, 5 small sterile alternating with 5 long fertile stamens, fertile anthers basifixed and sterile anthers slightly versatile, Ovary, densely silky pubescent throughout, sub sessile; style 1.3 cm long, geniculate; stigma expanded, hairy (Figure 1).

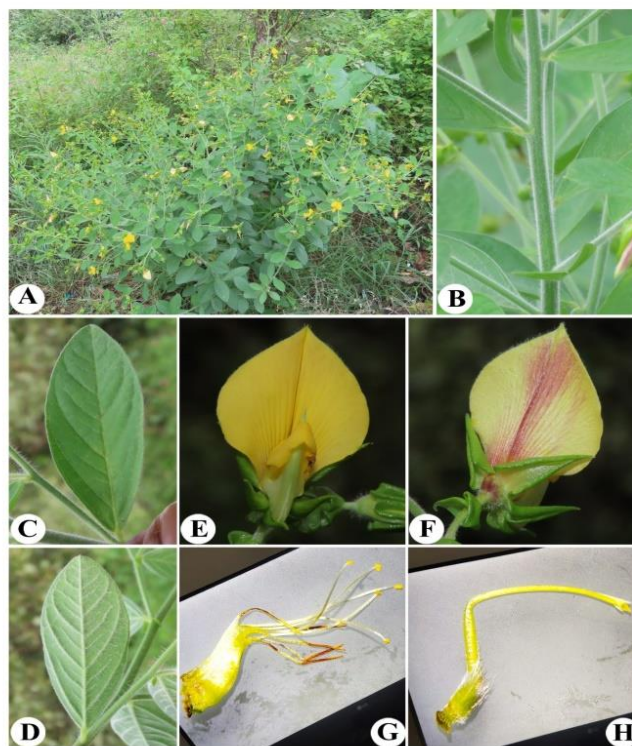


Fig. 1: *Crotalaria madurensis* var. *kurnoolica* J.L.Ellis & Swamin.: **A** – Habit; **B** – Stem; **C & D** – Leaf adaxial and abaxial surfaces; **E & F** – Flower front and back views; **G** – Androecium; **H** – Gynoecium.

Flowering & Fruiting

October-April

Distribution

India - Andhra Pradesh and Telangana (present study).

Ecology

It was growing on hill slope in between rocks, with association of *Heteropogon contortus* (L.) P.Beauv. ex Roem. & Schult., *Lantana camara* L., *Apluda mutica* L., *Cymbopogon flexuosus* (Nees ex Steud.) W.Watson and *Bidens biternata* (Lour.) Merr. & Sherff.

Specimen examined

India, Telangana state, Nagarkurnool district, near Mallela Theertham waterfalls, 16°16'1.15"N, 78°51'25.19"E, 667 m elevation, 03.11.2022, G Ravi, 0782 (HY).

Acknowledgements

The authors are thankful to Smt. N. Kshitija, IFS, Conservator of Forests, Field Director, Amrabad Tiger Reserve and Sri. Rohith Gopidi, IFS, District Forest Officer, Nagarkurnool, for their logistic support and permission during field explorations in Amrabad Tiger Reserve

Author contribution

Specimens was collected by 1, 3, 4, 6, 7 and 8 authors, draft and photo plate preparation by 1st and 2nd authors, proof reading and corrections by 5th author.

Ethical approval

Crotalaria madurensis var. *kurnoolica* J.L.Ellis & Swamin. an endemic species was collected from Mallela Theertham waterfalls of Nallamala forest of Telangana State, India. The ethical guidelines for plants & plant materials are followed in the study for sample collection & identification.

Informed consent

Not applicable.

Conflicts of interests

The authors declare that there are no conflicts of interests.

Funding

The study has not received any external funding.

Data and materials availability

All data associated with this study are present in the paper.

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